about 12,000 weather maps are issued daily at the various service stations thruout Germany.

During the winter season (October to April, inclusive) weather forecasts are not given the same wide distribution as in summer; they are only published in the newspapers and on the weather maps.

For the purpose of verifying forecasts, suitable persons (observers at meteorological stations, directors of schools, etc.) are appointed in every service district to keep a record of the occurrences of weather conditions and to remark upon the verification of the forecasts. Their reports are sent in weekly. The Aachen service station has cooperating observers at approximately 115 places. The final verifications are made at the different forecast centers.

For educational purposes directors of the service and their assistants give lectures on meteorology for the benefit of agricultural and other societies.

It is a difficult matter to make a weather forecast in Europe, especially so in Germany, as the movements of the areas of low and high pressure are quite complicated. The constant formation of separate low pressure areas and the variety of climatic conditions add to the difficulty of making precise weather predictions. In addition low pressure areas appear suddenly on the British coast, influencing with extraordinary rapidity the weather conditions in western and central Europe. The conditions for the weather service of the United States are much more favorable, for, on account of the absence of a mountain range running from west to east, areas of uniform weather are large, and besides the paths of the areas of low and high pressure are considerably more regular. Since all lows and highs come from the west and can be recognized at a distance of thousands of kilometers, and in passing from the Pacific to the Atlantic occupy several days, therefore it is possible to make forecasts for a longer period than in Europe, namely, forty-eight hours.

THE WEATHER OF THE MONTH.

By Mr. P. C. DAY, Assistant Chief, Division of Meteorological Records.

PRESSURE.

The distribution of mean atmospheric pressure for August, 1907, over the United States and Canada, is graphically shown on Chart VI, and the average values and departures from the normal are shown for each station in Tables I and V.

Under normal conditions the atmospheric pressure increases during August from that of July over the entire northern half of the United States, and apparently the whole of Canada, from the Rocky Mountains eastward to the Atlantic, with the maximum increase, more than .05 inch, over the lower St. Lawrence Valley.

Over the South Atlantic and Gulf States August marks the advent of the West Indian hurricane season, and the occasional passage of these storms westward and northeastward over the districts mentioned tends to lower the average pressure from that of July, the decrease over the Florida Peninsula, Cuba, and adjacent regions amounting to as much as .05 inch. On the north Pacific coast the beginning of the rainy season is indicated by diminishing pressure from that of July, with the maximum decrease, about .05 inch, along the immediate coasts of Washington and Oregon.

During August, 1907, the average pressure increased over that of July in all portions of the United States and Canada, except the upper Missouri Valley and adjoining Canadian districts and a small area embracing the coast district of northern California. Over the eastern districts of the United States and Canada the increase was quite marked, ranging from .10 to .15 inch, while over the coast districts of Washington the increase was from .05 to .08 inch.

Along the northern portions of Montana and North Dakota and the adjoining Canadian Provinces of Alberta and Saskatchewan, the pressure decreased from that of July by amounts from .05 to .07 inch.

Pressure was decidedly above normal over the north Pacific coast, the lower Mississippi Valley, and the Gulf and south Atlantic coasts. Over the northern portion of the United States and the Canadian Provinces east of the Rocky Mountains, except the peninsula of Ontario, the pressure averaged from .03 to .07 inch below normal.

Pressure averaged 30.05 inches, or above, over the Florida Peninsula, the central portion of the Appalachian region, and along the coasts of Washington and Oregon; and 29.85, or lower, over the Canadian Northwest Provinces, southeastern California, and the southern portions of Arizona and New Mexico.

The high pressure extending from the west Gulf coast northeastward over the South Atlantic States, with more than the usual decrease in pressure northward, augmented somewhat the force and persistency of the southerly winds normal to the season in the districts east of the Rocky Mountains. Over the northern half of the above district, as far eastward as the Great Lakes, the wind movement ranged from 10 to 30 per cent above the seasonal average. Southerly surface winds prevailed over nearly all districts east of the Rocky Mountains, while over the Plateau and Pacific coast districts the winds were generally from some westerly point.

TEMPERATURE.

The month was colder than the average over the entire northern half of the United States and the whole of Canada as far as observations extend, except a small area near the Gulf of St. Lawrence, where a small excess of temperature was noted. Over the central and northern portions of the Rocky Mountain and Plateau districts, the monthly averages were nearly 5° below the normal, making the fifth consecutive month during which the mean temperature has been continuously below the average in those districts. Over the Lake region, Middle Atlantic States, and New England the temperature averaged from 2° to more than 4° below the normal, and was likewise the fifth consecutive month with mean temperature below the seasonal average.

Temperatures above the average were recorded over the whole of the cotton-growing States, with the maximum excess over western Texas, where the average for the month exceeded the normal by nearly 5°.

Abnormally warm weather occurred over most of Texas, Arkansas, southwestern Missouri, Kansas, and Oklahoma during the second week of the month. From the 10th to the 12th the maximum temperatures over Arkansas, and the adjoining districts of Missouri, Kansas, Oklahoma, Texas, Louisiana, and Mississippi, ranged from 100° to 110°, and were in many cases, especially over Arkansas, the highest ever recorded. High temperatures again prevailed in the above districts near the end of the month. Maximum temperatures slightly above 100° were recorded in the valley of the Columbia River and over the plains of eastern Washington and Oregon and the lower elevations of Idaho on the first day of the month. Over central and southeastern California and the southern portion of Arizona maximum temperatures from 100° to 110° and over were recorded, but these readings were not unusual for the region and season.

Minimum temperatures of 32° or lower occurred in the mountain districts from northern Arizona and New Mexico northward, and over the northern portion of the States along the boundary from the Rocky Mountains to New England, accompanied by light to heavy frosts, but without serious injury to vegetation.

PRECIPITATION.

The distribution of precipitation during August, 1907, is graphically shown on Chart IV by appropriate shading or by figures representing the actual amount of fall.

Generous and well-distributed amounts of precipitation occurred over most of the Mississippi Valley region, in western Kansas and Oklahoma, the Texas panhandle, New Mexico and Arizona, and generally over the northern Rocky Mountain districts, with local heavy falls in portions of eastern North Carolina, western Florida, and southern Alabama. Over most of the middle and upper Mississippi Valley the heavy rainfall of July was repeated in August, giving ample moisture to the soil and resulting in some damage locally from the excessive amount of fall.

Generally heavy precipitation occurred over the panhandle of Texas, central and southern Kansas, and western Oklahoma. In the panhandle, however, the occurrence was confined to two periods, the 2d and 3d, and 20th to 22d, practically all the rain for the month falling on those dates.

Over New Mexico and Arizona the seasonal summer rains continued and fell in amounts sufficient for practically all needs, adding large volumes to reservoirs and maintaining the streams of the Territories at satisfactory stages. Over most of Idaho and portions of western Montana the month was the wettest August on record.

A marked deficiency in precipitation occurred over the lower Lake region, New York and New England, and generally over the South Atlantic and Gulf States. Over northern New York and portions of southern New England the precipitation was the least recorded in August in many years, and following a marked deficiency in July caused a drought of considerable proportions, especially over eastern Massachusetts and Rhode Island. Over the southern Appalachian region drought conditions inaugurated in July continued in August, resulting in a decided lack of moisture, but frequent light showers appear to have prevented serious damage to vegetation.

Rainfall was generally light over the cotton-growing States, as also over the greater part of the Missouri Valley and the Plains region from Nebraska northward, but light showers at rather frequent intervals maintained a sufficient supply of moisture for the needs of the season. Over most of the mountain and Plateau districts the precipitation was considerably above the normal, occurring mostly in light falls well distributed during the various periods of the month.

Some local heavy rains were reported from northern California, but the greater part of that State was without appreciable precipitation.

HUMIDITY AND SUNSHINE.

Relative humidity from 5 to 15 per cent in excess of the average prevailed over the entire Rocky Mountain and Plateau districts and generally over the middle Mississippi Valley.

There was a marked deficiency over central Texas and the New England States, and it was generally deficient over New York and the interior of the South Atlantic States.

A general excess of cloudy weather prevailed from the Mississippi Valley westward to the Pacific, excepting portions of the Missouri Valley, southwestern Missouri, Arkansas, and the greater part of Texas, where there was a general excess of sunshine. Generally abundant sunshine occurred over the cotton-growing States and from the lower Lakes northeastward over New England.

WEATHER IN ALASKA.

Reports from Alaska indicate the continuance of seasonable weather. The usual number of cloudy, rainy days appear to have prevailed over the coast districts, and fair weather with occasional light showers and but little wind movement characterized the weather of the interior portions of the Territory.

The temperature readings made at 9 a. m. daily at a large number of points in the interior show temperatures at that hour ranging generally from 45° to 65°, with small variations from day to day, and but few points reported readings as low as freezing.

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
		°	°	°	°
New England	12	65.7	— 1.7	—20.7	— 2.6
Middle Atlantic	16	71.6	— 1.2	—13.6	— 1.7
South Atlantic	10	78.6	+ 0.8	+ 5.0	+ 0.6
Florida Peninsula*	8	81.8	+ 0.5	+11.3	+ 1.4
East Gulf	11	80.8	+ 1.5	+14.5	+ 1.8
West Gulf	10	83.3	+ 2.5	+16.6	+ 2.1
Ohio Valley and Tennessee	13	74.3	— 0.6	— 3.5	— 0.4
Lower Lake	10	67.0	— 2.5	—17.8	— 2.2
Upper Lake	12	64.4	— 1.6	—12.3	— 1.5
North Dakota*	9	65.3	— 1.2	—22.4	— 2.8
Upper Mississippi Valley	15	71.9	— 1.1	— 8.0	— 1.0
Missouri Valley	12	74.4	+ 0.6	— 2.6	— 0.3
Northern Slope	9	63.6	— 2.8	—10.9	— 1.4
Middle Slope	6	76.9	+ 1.6	+ 9.1	+ 1.1
Southern Slope*	7	81.8	+ 2.6	+16.2	+ 2.0
Southern Plateau*	12	76.3	— 1.0	+ 0.5	+ 0.1
Middle Plateau*	10	66.8	— 3.1	+ 5.8	+ 0.7
Northern Plateau*	12	63.5	— 4.4	— 7.2	— 0.9
North Pacific	7	59.6	— 1.4	— 1.9	— 0.2
Middle Pacific	8	65.8	— 0.9	— 2.2	— 0.3
South Pacific	4	69.4	— 1.1	+ 4.1	+ 0.5

* Regular Weather Bureau and selected cooperative stations.

In Canada.—Director R. F. Stupart says:

The temperature was just the average in a few isolated localities, chiefly in Manitoba and eastern Quebec; otherwise thruout the Dominion it was below the average, the negative departure varying from 1° to 3°, except in Alberta, where it was 5°, and in northern British Columbia 7°.

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		*Inches.*	*Inches.*
New England	12	1.40	37	—2.4	—6.9
Middle Atlantic	16	3.17	71	—1.3	—5.2
South Atlantic	10	5.01	82	—1.1	—9.4
Florida Peninsula*	8	4.91	71	—2.0	—7.0
East Gulf	11	3.66	75	—1.2	—3.9
West Gulf	10	1.13	37	—1.9	—7.1
Ohio Valley and Tennessee	13	3.01	88	—0.4	—2.4
Lower Lake	10	1.25	41	—1.8	—3.0
Upper Lake	12	2.99	100	0.0	—2.1
North Dakota*	9	1.98	111	+0.2	—1.2
Upper Mississippi Valley	15	5.31	171	+2.2	+2.8
Missouri Valley	12	2.61	77	—0.8	—1.4
Northern Slope	9	1.26	109	+0.1	+1.2
Middle Slope	6	2.24	92	—0.2	—2.0
Southern Slope*	7	2.63	118	+0.4	—0.2
Southern Plateau*	12	2.20	169	+0.9	+2.6
Middle Plateau*	10	1.54	208	+0.8	+2.5
Northern Plateau*	12	1.67	192	+0.8	+1.9
North Pacific	7	0.99	125	+0.2	—7.1
Middle Pacific	8	0.45	900	+0.4	+3.3
South Pacific	4	T.	100	0.0	+1.7

* Regular Weather Bureau and selected cooperative stations.

In Canada.—Director Stupart says:

In the southern portions of Vancouver Island and on the lower mainland the rainfall was very light, less than half the average amount in many localities. In other parts of British Columbia it was nearly everywhere much in excess of the average, Cariboo recording nearly three times the usual quantity. In the Western Provinces and east as far as Lake Superior, with the exception of a few localities in southern Alberta, the rainfall was also remarkably heavy, the positive departures being equivalent to over 100 per cent at Edmonton, Swift Current, and Regina; to 52 per cent at Prince Albert, 57 per cent at Minnedosa, and 89 per cent at Port Arthur. The peninsula of Ontario and the Ottawa and upper St. Lawrence valleys, on the other hand, suffered from the lack of rain, the drought being severely felt in nearly all districts, the deficiency of rainfall varying from 50 to 76 per cent. In the western portion of the Province of Quebec the rainfall was also exceedingly light, but eastward it increased steadily, reaching the average amount a little below Quebec and exceeding it by from 18 to 28 per cent in the Gaspe Peninsula; much rain also fell over the Maritime Provinces, the excess from the usual quantity varying from 3 per cent in Prince Edward Island to 36 and 38 per cent in parts of Nova Scotia.

Average relative humidity and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
	%			%	
New England	76	— 6	Missouri Valley	66	— 1
Middle Atlantic	74	— 2	Northern Slope	59	+ 7
South Atlantic	82	0	Middle Slope	62	+ 3
Florida Peninsula	78	— 2	Southern Slope	61	— 3
East Gulf	80	0	Southern Plateau	50	+ 5
West Gulf	73	— 2	Middle Plateau	44	+10
Ohio Valley and Tennessee	75	+ 3	Northern Plateau	45	+ 3
Lower Lake	70	— 1	North Pacific	76	+ 1
Upper Lake	75	0	Middle Pacific	64	+ 1
North Dakota	67	+ 3	South Pacific	66	+ 1
Upper Mississippi Valley	77	+ 7			

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	4.9	— 0.1	Missouri Valley	4.0	— 0.1
Middle Atlantic	5.0	0.0	Northern Slope	4.0	+ 0.3
South Atlantic	4.8	— 0.4	Middle Slope	4.6	+ 0.8
Florida Peninsula	4.0	— 1.2	Southern Slope	3.7	— 1.1
East Gulf	5.1	+ 0.2	Southern Plateau	3.6	+ 0.2
West Gulf	3.7	— 0.7	Middle Plateau	3.9	+ 1.7
Ohio Valley and Tennessee	5.2	+ 0.7	Northern Plateau	3.6	+ 0.6
Lower Lake	4.4	— 0.1	North Pacific	5.6	+ 1.7
Upper Lake	4.8	0.0	Middle Pacific	4.0	+ 1.2
North Dakota	4.6	+ 0.7	South Pacific	2.6	+ 0.1
Upper Mississippi Valley	4.6	+ 0.5			

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Amarillo, Tex.	30	50	s.	Peoria, Ill.	6	58	n.
Birmingham, Ala.	13	58	ne.	Point Reyes Light, Cal.	9	60	nw.
Devils Lake, N. Dak.	8	52	w.	Do.	25	56	nw.
La Crosse, Wis.	11	50	nw.	Do.	26	51	nw.
Marquette, Mich.	18	58	sw.	Salt Lake City, Utah.	3	64	w.
Minneapolis, Minn.	18	62	w.	Sand Key, Fla.	16	50	se.
Mount Tamalpais, Cal.	9	60	nw.	Sioux City, Iowa.	7	55	se.
North Head, Wash.	6	54	se.	Williston, N. Dak.	10	50	n.
Oklahoma, Okla.	22	54	s.				